Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) A marketing decision support system for food stores, supermarkets, retail stores and store chains ~~or groups thereof~~, ~~intended~~ for optimization of a of a selected by the store chain management~~preferred~~ merchandising figure-of-merit predictive function (revenue, gross profit, net profit~~revenue, profit, and the like~~) in product prices and promotion schedules of a plurality of remotely-operated in-store computer monitors, the system comprising:

a) A historical database connected to the said marketing decision support system that contains scanner data or historical purchase data in any format that contains at least the following fields: date of purchase, time of purchase, bar code, quantity bought, price at the time of purchase~~scanner type data~~;

b) A method~~procedure~~ for ~~flexible~~ modeling and ~~efficient~~ optimization of joint effects of pricing and promotion factors, and also of additional factors: product brands, sales discounts, quantity discounts, promotion schedules, days of the week, pre-holiday days, post-holiday days, year seasons, past sales histories, that may influence demands of a plurality of products on sale~~various other related influence factors on product demands of a plurality of products on sale~~;

c) Means for data mining of the said historical database that performs aggregation of individual sale and promotion records ~~with the dual purpose of flexible aggregation of individual sale and promotion records~~ into data batches corresponding to user-selected or system-determined time periods, and of extracting the contents of database fields corresponding to the said influence factors;

d) Means for construction of an integrated pricing and promotion regression model or of a set of integrated pricing and promotion regression models suitable for capturing joint effects of the plurality of said influence factors including pricing and promotion variables on the demands of the plurality of products on sale;

e) An ~~efficient~~ estimation procedure of said integrated pricing and promotion regression model or integrated pricing and promotion regression models for simultaneous estimation and for separate stepwise estimation~~capable both of simultaneous estimation and of separate stepwise estimation~~;

f) Means for construction of predicted future demands for ~~construction of predicted future demands for~~ products~~s~~ in categories with substitute demands and with complementary demands;

g) Means for demonstrating separately the effects of ~~isolating effects of~~ prices on product demands in categories based on the said ~~efficient~~ estimation procedure;

h) Means for demonstrating separately the effects ~~isolating effects~~ of display ~~(exposition)~~ times of a plurality of promotion clips ~~(~~running on ~~various~~ in-store monitors~~)~~ on product demands in categories based on the said efficient estimation procedure;

i) Means for setting up and running a secondary database containing only filtered~~the~~ data necessary for estimation computations, i.e. only the contents of the fields directly corresponding to the regression factors in integrated pricing and promotion regression models, and storing them in a form more suitable for improved reading and processing~~and optimization computations and storing them in a form suitable for fast reading and processing~~.

2. (Canceled)

3. (Original) A marketing decision support system according to claim 1, wherein the means for data mining includes means for determining structure and sizes of said data batches in such a way as to enable construction of integrated pricing and promotion regression models for capturing the effects of various promotion schedules.

4. (Currently Amended) A marketing decision support system according to claim 1, wherein the means for data mining further includes means for detecting missing data in the said historical database, and also means for imputation of missing data, i.e. replacement of missing values with valid values recalculated on the basis of the remaining valid data and suitable for construction of integrated pricing and promotion regression models~~missing and~~

~~"bad" data in the said historical database, and also means for imputation of missing data and for correction and cleaning of "bad" data~~.

5. (Currently Amended) A marketing decision support system according to claim 1, wherein the means for data mining further includes means for detecting "bad" data, i.e. incomplete, incorrectly formatted, out-of-range, highly improbable data, in the said historical database, and also means for correcting and cleaning of "bad" data which includes completion of incomplete or incorrect formats, and replacement of out-of-range or highly improbable values with valid values recalculated on the basis of the remaining valid data~~in the means for data mining, said means for inputing missing data and for correcting and cleaning of "bad" data are configured as to be particularly suitable for the purposes of construction of integrated pricing and promotion regression models~~.

6. (Currently Amended) A marketing decision support system according to claim 1, wherein the means for data mining further includes means for calculating robust summary statistics related to said sales record batches which enable estimation of integrated pricing and promotion regression models to be performed by standard non-robust statistical methods: ordinary least squares method, weighted least squares method, generalized least squares method~~obtaining robust summary statistics related to said sales record batches which enable estimation of integrated pricing and promotion regression models to be performed by standard non-robust statistical methods~~.

7. (Canceled)

8. (Canceled)

9. (Currently Amended) A marketing decision support system according to claim 1, wherein in the means for construction of regression models the said regression models contain weights that reflect sales volumes associated with said data batches.

10. (Currently Amended) A marketing decision support system according to claim 1, wherein in the means for construction of regression models the said regression models further reflect breakdown of the plurality of products on sale into product ~~categories~~ groups consisting of products with substitute demands and complementary demands.

11. (Canceled)

12. (Currently Amended) A marketing decision support according to claim 1, wherein the ~~efficient~~ estimation procedure is ~~capable of~~ generating an estimation process evolving in real time in which later and better estimates are based on earlier estimates and on newly obtained sales data.

13. (Original) A marketing decision support system according to claim 1, wherein the means for construction of predicted future demands is capable of accounting for strong mutual dependencies among sales of substitute and of complementary products.

14. (Currently Amended) A marketing decision support system according to claim 1, wherein the means for calculating~~isolating~~ effects of prices on product demands provides for price optimization.

15. (Currently Amended) A marketing decision support system according to claim 1, wherein the means for calculating~~isolating~~ effects of display ~~(exposition)~~ times provides for promotion optimization.

16. (Currently Amended) A marketing decision support system according to claim 1, wherein in the means for setting up and running a secondary database the said secondary database is also used for storing newly obtained sales data in a form suitable for ~~fast~~ reading and processing thus obviating the need for time-consuming and expensive process of data mining the historical master database.

17. (Currently Amended) A marketing decision support system according to claim 1, wherein the marketing decision support system further comprises a system for optimization of a selected by the management~~preferred~~ merchandising figure-of-merit predictive function in product prices that contains the following~~eight~~ major modules:

a) Single product regular price optimization module ~~appropriate~~ for optimizing a selected by the management~~preferred~~ figure-of-merit predictive function for user-selected single products under regular sales conditions;

b) Product category regular price optimization module ~~appropriate~~ for optimizing a selected by the management ~~category~~ figure-of-merit predictive function for user-selected product groups~~categories~~ under regular sales conditions;

c) Single product clearance price optimization module ~~appropriate~~ for optimizing a selected by the management~~preferred~~ figure-of-merit predictive function for user-selected single products under clearance sales conditions;

d) Product group~~category~~ clearance price optimization module ~~appropriate~~ for optimizing a selected by the management~~category~~ figure-of-merit predictive function for user-selected product groups~~categories~~ under clearance sales conditions;

e) Prediction error estimation module;

f) Significance testing module;

g) Sensitivity-assessing module;

h) ~~A~~ Module for constructing scenario reports that contain at least the following information units in tabled and graphical forms: Scenario task specification, All group profits, All group revenues, Group availability, Individual group task specification, Individual group product pricing, Individual group product profits, Individual group product revenues, Individual group product sales volumes, Individual group product availability~~confirmation . facility module that allows the user to always review price changes computed by the system and to register his consent through a password-protected channel of the user interface to the system prior to any price changes to be actually implemented.~~

i) A confirmation facility module that allows the user to always review price changes computed by the system and to register his consent through a password-protected channel of the user interface to the system prior to any price changes to be actually implemented.

18. (Currently Amended) A marketing decision support system according to claim 17, wherein the single product regular price optimization module comprises: A selected by the management~~preferred~~ figure-of-merit predictive function of a single product regular price; localization constraints related to the current product price; range constraints related to the product extreme price values as recorded in the database; optional price range restrictions as imposed by the user under the selected by him optimization scenario.

19. (Currently Amended) A marketing decision support system according to claim 17, wherein the product ~~category~~ group regular price optimization module comprises: A selected by the management~~preferred~~ figure-of-merit predictive function of product group~~category~~ regular prices; localization constraints related to the current group~~category~~ prices; range constraints related to the group~~category~~ extreme price values as recorded in the database; optional price range restrictions as imposed by the user under the selected by him optimization scenario.

20. (Currently Amended) A marketing decision support system according to claim 17, wherein the single product clearance price optimization module comprises: A selected by the management~~preferred~~ figure-of-merit predictive function of a single product clearance price; localization constraints related to the current product price; range constraints related to the product extreme price values as recorded in the database; optional price range restrictions as imposed by the user under the selected by him optimization scenario.

21. (Currently Amended) A marketing decision support system according to claim 17, wherein the single product clearance price optimization module also computes predicted sales volumes and predicted leftover stocks.

22. (Currently Amended) A marketing decision support system according to claim 17, wherein the product group~~category~~ clearance price optimization module comprises: A selected by the management~~preferred~~ figure-of-merit predictive function of a mix of product group~~category~~ regular prices and product group~~category~~ clearance prices; localization constraints related to the current group~~category~~ prices; range constraints related to the group~~category~~ extreme price values as recorded in the database; optional price range restrictions as imposed by the user under the selected by him optimization scenario.

23. (Currently Amended) A marketing decision support system according to claim 17, wherein the product group~~category~~ clearance price optimization module also computes predicted sales volumes and predicted leftover stocks for all clear-out products.

24. (Currently Amended) A marketing decision support system according to claim 17, wherein the prediction error estimation module uses resampling methods for estimation of prediction errors, standard errors and biases in predicted single product optimal prices and in predicted group~~category~~ optimal price vectors.

25. (Currently Amended) A marketing decision support system according to claim 17, wherein the prediction error estimation module further uses resampling methods for estimation of prediction errors, standard errors and biases in single product figure-of-merit predictive functions and in ~~category~~ group figure-of-merit predictive functions.

26. (Currently Amended) A marketing decision support system according to claim 17, wherein the significance-testing module uses resampling methods for testing significance of optimized price changes in predicted single product optimal prices and in predicted group~~category~~ optimal price vectors.

27. (Currently Amended) A marketing decision support system according to claim 17, wherein the significance-testing module further uses resampling methods for testing significance of figure-of-merit function changes for predicted single product optimal prices and for predicted group~~category~~ optimal price vectors.

28. (Original) A marketing decision support system according to claim 17, wherein the sensitivity-assessing module comprises means for assessing sensitivity of the predicted single product price functions relative to price range restrictions.

29. (Currently Amended) A marketing decision support system according to claim 17, wherein the sensitivity-assessing module further comprises means for assessing sensitivity of the predicted group~~category~~ price functions relative to price range restrictions.

30. (Original) A marketing decision support system according to claim 17, wherein the sensitivity-assessing module further comprises means for assessing sensitivity of single product figure-of-merit predictive functions relative to price range restrictions.

31. (Currently Amended) A marketing decision support system according to claim 17, wherein the sensitivity-assessing module further comprises means for assessing sensitivity of group~~category~~ figure-of-merit predictive functions relative to price range restrictions.

32. (Currently Amended) The marketing decision support system as recited in claim 1 further comprising a system for optimization of a selected by the management~~preferred~~ merchandising figure-of-merit predictive function in promotion schedules that contains the following~~eight~~ major modules:

a) An initial scheduling module for constructing initial promotion schedules for a plurality of promotion clips running on in-store monitors when there are no sufficient data for estimation of promotion schedule effects on product demands;

b) A module for estimating promotion schedule effects of a plurality of promotion clips running on in-store monitors on product demands, based on said means for calculating~~isolating~~ effects of display ~~(exposition)~~ times of a plurality of promotion clips ~~(running on various in-store monitors)~~ on product demands in group~~categories~~ based on the said ~~efficient~~ estimation procedure;

c) A module for selecting a group of best schedules from all recorded optimal schedules;

d) A module for constructing locally weighted regressions for a selected by the management~~preferred~~ figure-of-merit predictive function in the vicinity of each of the best schedules;

e) A module for computing figure-of-merit predictive function increases for all best schedules;

f) A module for performing local optimization of the said figure-of-merit predictive function in the vicinity of all best schedules, and then selecting the schedule with the largest predicted figure-of-merit increase;

g) A significance testing module that uses resampling methods for testing significance of the largest predicted figure-of-merit increase;

h) A module for constructing a next promotion schedule that either selects the schedule with the largest predicted figure-of-merit increase if the result of the said significance testing was significant, or, alternatively, constructs a new promotion schedule in the vicinity of the existing promotion schedules.

33. (Original) A marketing decision support system as recited in claim 32, wherein a method for modifying the module for local optimization of the figure-of-merit predictive function allows for incorporating additional user-defined constraints such as the number of brand item

clips or the number of clip demonstrations related to a particular product group within a given time period.

34. (Currently Amended) A marketing decision support system as recited in claim 32, wherein an automatic promotion control system provides ~~unlimited in time automatic~~ functioning of the module for optimization of the figure-of-merit predictive function during two time periods: initial period and main period.

35. (Currently Amended) A marketing decision support system as recited in claim 34, wherein in the automatic promotion control system the said initial period contains a predefined finite number of ~~time periods~~working days.

36. (Currently Amended) A marketing decision support system as recited in claim 34, wherein in the automatic promotion control system the said main period contains a potentially infinite number of working days~~time periods~~.

37. (Currently Amended) The marketing decision support system as recited in claim 1 further comprising a ~~powerful and~~ flexible user interface containing templates for a plurality of optimization and prediction scenarios partitioned into the following ~~three~~ groups ~~according to the following templates~~: Pricing Optimization Scenarios, Pricing Prediction Scenarios, Promotion Scheduling Scenarios.

38. (Currently Amended) The marketing decision support system as recited in claim 37, wherein the user interface contains facilities for the user for constructing Pricing Optimization Scenarios by entering parameter values or accepting system defaults via the following major steps: Select task – pricing, Select goal – optimization, Select figure-of-merit, i.e. revenue or profit, Select grouping mode – individual or group, Select pricing mode – regular or clearance, Select product categories, product groups, and products, Select scenario name, Select execution mode – immediate or delayed~~in the user interface each optimization or prediction scenario can be obtained by the user from a corresponding template by making option selections, entering various input parameter values, and accepting certain defaults~~.

39. (Currently Amended) The marketing decision support system as recited in claim 37, wherein the user interface contains facilities for the user for constructing Pricing Prediction Scenarios by entering parameter values or accepting system defaults via the following major steps: Select task – pricing, Select goal – forecasting, Select grouping mode – individual or

group, Select pricing mode – regular or clearance, Select product categories, product groups, and products, Select scenario name, Select execution mode – immediate or delayed~~producing flexible user-friendly reports presenting results of the requested computations according to selected scenarios in written and in graphical forms~~.

40. (Currently Amended) The marketing decision support system as recited in claim 37, wherein ~~in~~ the user interface contains facilities for the user for constructing Promotion Scheduling Scenarios by entering various parameter values or accepting system defaults via the following major steps: Select task – promotion, Select the ID for each monitor from the plurality of all monitors in the store, Select grouping mode – individual or group for each monitor, Select a list of promotion clip IDs for each monitor, Select running time boundaries for each monitor, Select scenario name, Select execution mode – immediate or delayed~~said Pricing Optimization Scenarios template contains the following groups of options: Basic Input Options and Input Parameters, Additional Input Options, Advanced User Input Options, Basic User Report Options, Additional User Report Options, Recalculation Options, Additional Optimization Options, Options for Manipulating Existing Reports, Inter-Scenario Comparisons, Graphical Representation~~.

41. (Currently Amended) The marketing decision support system as recited in claim 37, wherein after computation completion the Pricing Optimization Scenarios produce scenario reports that contain at least the following information units in tabled and graphical forms: Scenario task specification, All group profits, All group revenues, Group availability, Individual group task specification, Individual group product pricing, Individual group product profits, Individual group product revenues, Individual group product sales volumes, Individual group product availability~~in the user interface said Pricing Prediction Scenarios template contains the following groups of options: Basic Input Options and Input Parameters, Additional Input Options, Advanced User Input Options, Basic User Report Options, Additional User Report Options, Recalculation Options, Additional Prediction Options, Options for Manipulating Existing Reports, Inter-Scenario Comparisons, Graphical Representation~~.

42. (Currently Amended) The marketing decision support system as recited in claim 37, wherein after computation completion the Pricing Prediction Scenarios produce scenario reports that contain at least the following information units in tabled and graphical forms: Scenario task specification, All group forecasting terms, All group profits, All group revenues, Group availability, Individual group task specification, Individual group product pricing, Individual group product profits, Individual group product revenues, Individual group product

sales volumes, Individual group product availability~~in the user interface said Promotion Scheduling Scenarios template contains the following groups of options: Reporting on Current Scheduling: Basic User Options, Reporting on Current Scheduling: Additional User Report Options, Modifications: Basic Input Options and Input Parameters, Modifications: Advanced User Input Options, Post-Modification Reporting: Basic User Report Options, Options for Manipulating Existing Reports, Inter-Scenario Comparisons, Graphical Representation~~.

43. (New) The marketing decision support system as recited in claim 33, wherein after computation completion the Promotion Scheduling Scenarios produce scenario reports that contain at least the following information units in tabled and graphical forms: Scenario name, task specification – promotion, IDs of all monitors of the plurality of the monitors in the store, grouping mode for each monitor – individual or group, list of promotion clip IDs for each monitor, running time boundaries for each monitor, optimal running time distribution for all selected promotion clips for each monitor, All group profits, All group revenues, Group availability, Individual group product pricing, Individual group product profits, Individual group product revenues, Individual group product sales volumes, Individual group product availability.